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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,539	07/09/2003	Alvin Kobashikawa	AK-P1	5180
26793	7590 06/10/2005		EXAMINER	
	K. CHONG	CUEVAS, PEDRO J		
GODBEY GRIFFITHS REISS & CHONG 1001 BISHOP STREET, PAUAHI TOWER SUITE 2300			ART UNIT	PAPER NUMBER
HONOLULU	, HI 96813		2834	
			DATE MAILED: 06/10/200	5

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
055 4 44 0	10/618,539	KOBASHIKAWA ET	AL. ( CM)			
Office Action Summary	Examiner	Art Unit				
	Pedro J. Cuevas	2834				
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply						
A SHORTENED STATUTORY PERIOD FOR REF THE MAILING DATE OF THIS COMMUNICATION  - Extensions of time may be available under the provisions of 37 CFR after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a  - If NO period for reply is specified above, the maximum statutory perion.  - Failure to reply within the set or extended period for reply will, by state than the period for reply within the set or extended period for	N. 1.136(a). In no event, however, i eply within the statutory minimum od will apply and will expire SIX (i tute. cause the application to become	nay a reply be timely filed  of thirty (30) days will be considered timely. ) MONTHS from the mailing date of this com	nmunication.			
Status						
1)⊠ Responsive to communication(s) filed on 19	April 2005.					
3) Since this application is in condition for allow		matters, prosecution as to the r	merits is			
closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.						
Disposition of Claims						
4)  Claim(s) 1-20 is/are pending in the application 4a) Of the above claim(s) is/are withdress 5)  Claim(s) is/are allowed. 6)  Claim(s) 1-20 is/are rejected. 7)  Claim(s) is/are objected to. 8)  Claim(s) are subject to restriction and	rawn from consideration					
Application Papers						
9) The specification is objected to by the Examiner.						
10)⊠ The drawing(s) filed on <u>09 July 2003</u> is/are: a)⊠ accepted or b)□ objected to by the Examiner.						
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11)☐ The oath or declaration is objected to by the	Examiner. Note the atta	ched Office Action or form PTC	)-152.			
Priority under 35 U.S.C. § 119						
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some col None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.						
Attachment(s)						
1) Notice of References Cited (PTO-892)  4) Interview Summary (PTO-413)						
Notice of Draftsperson's Patent Drawing Review (PTO-948)     Information Disclosure Statement(s) (PTO-1449 or PTO/SB/0 Paper No(s)/Mail Date	Pape (18) 5)  Notic (6)  Othe	r No(s)/Mail Date se of Informal Patent Application (PTO-1 r:	152)			

#### **DETAILED ACTION**

### Response to Arguments

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

## Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 1, 6-9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,002,416 to Axford (prior art document submitted by applicant) in view of U.S. Patent No. 4,371,788 to Smith, Jr. (prior art document submitted by applicant).

Axford disclose the construction of a motor powered by wave action comprising:

a stable platform (45) secured in a seabed position (11) in the sea at a depth below the sea surface and elevated above the seabed on pier structures (13);

a lever arm (26) having a proximal end pivotably mounted to the platform, and is connected to a reciprocating cradle coupled through a pair of connecting rods for dual reciprocating action of the pump;

a wave-energy absorbing panel (25) coupled to the distal end of the lever arm and oriented to absorb the impulse wave energy of waves moving through the sea, said panel moving in oscillating motion as the lever arm is pivoted with the ebb and flow of wave motion, and mounted to the lever arm and a connecting rod telescoped to the pump

extends at a high angle substantially vertically to a distal connecting point to the lever arm; and

a fluid pump (column 2, lines 48-65) having a piston rod coupled to the lever arm for applying pressure to intake fluid in the pump with the oscillating motion of the panel in order to provide a high-pressure fluid output for high-pressure uses;

wherein the panel has a major part of its surface area positioned within a sea subsurface region defined as approximately a depth of L/2 below the sea surface, where L represents the wavelength of the waves moving near the sea surface (Figure 1).

However, it fails to disclose a distal end of the lever arm extending upwardly from the proximal end in a vertical direction toward the sea surface such that the distal end is movable near the sea surface in a pivoting motion about the proximal end mounted to the platform below the sea surface, and a proximal end connected to a pivotable base plate, which has opposing ends coupled to connecting rods of an opposing pair of pumps.

Smith, Jr. teaches the construction of an energy device powered by the motion of the water beneath waves comprising a lever arm (226) having:

a distal end extending upwardly from the proximal end (234) in a vertical direction toward the sea surface such that the distal end is movable near the sea surface in a pivoting motion about the proximal end mounted to the platform below the sea surface (Figure 20) for the purpose of extracting both kinetic and potential energy from the motion beneath waves over a considerable depth; and

a proximal end connected to a pivotable base plate, which has opposing ends coupled to connecting rods of an opposing pair of pumps (Figures 21 and 22) for the

purpose of achieving a 180° phase shift between the traveling wave and the reflected wave.

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It would have been obvious to one skilled in the art at the time the invention was made to use the lever arm arrangement disclosed by Smith, Jr. on the motor powered by wave action disclosed by Axford for the purpose of achieving a 180° phase shift between the traveling wave and the reflected wave, and extracting both kinetic and potential energy from the motion beneath waves over a considerable depth.

- 4. With regards to claim 9, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use multiple lever arms coupled to multiple stages of pumps, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPO 8.
- 5. Claims 2-5, 10-12, 14-17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,002,416 to Axford in view of U.S. Patent No. 4,371,788 to Smith, Jr. (prior art document submitted by applicant) as applied to claims 1, 6-9, and 13 above, further in view of U.S. Patent No. 6,139,750 A to Graham.

Axford in view of Smith, Jr. disclose the construction of a motor powered by wave action as disclosed above.

However, it fails to disclose a desalination unit employing the high-pressure fluid output from the pump to produce a desalinated water output.

Graham teach the construction of a water desalination system (Figure 6) employing the high-pressure fluid output from a variable capacity pump to produce a desalinated water output, having:

a piston head (80) and radially positioned pipes along the sides of its pump bore (56) which are controlled by respective valves (62) so that the volume of the pump can be regulated by opening or closing of the valves, and one-way outlet valves (110) for releasing pressures inside the pump to vary the pump capacity;

a one-way valve (106) for controlling the intake of intake seawater through an intake line and another one-way valve for controlling the outflow (column 6, line 56) of pressurized fluid through an outlet line;

and a desalination unit (30) positioned in alignment with the pump in a downstream direction of wave motion and presents no greater surface area profile to wave motion than the pump, for the purpose of providing a method of desalinating water which comprises pumping water to be desalinated to a filter element consisting of reverse osmosis membranes defining salt passages, causing a pressure drop in the water flowing to the filter element and simultaneously introducing turbulence into the water flow, and feeding the turbulent water at the lower pressure into the salt passages of the filter element (column 3, lines 4-11).

It would have been obvious to one skilled in the art at the time the invention was made to use the water desalination system disclosed by Graham on the motor powered by wave action disclosed by Axford in view of Smith, Jr. for the purpose of providing a method of desalinating water which comprises pumping water to be desalinated to a filter element consisting of reverse osmosis membranes defining salt passages, causing a pressure drop in the water flowing to the filter element and simultaneously introducing turbulence into the water flow, and feeding the turbulent water at the lower pressure into the salt passages of the filter element.

- 6. With regards to claims 14 and 17, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the platform adjustable in height above the seabed and the coupling of the panel to the lever arm, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. *In re Stevens*, 101 USPQ 284 (CCPA 1954).
- 7. With regards to claim 16, it would have been obvious to one having ordinary skill in the art at the time the invention was made to attach the motor to a submersible structure that can be raised or lowered to and from the seabed depths and also relocated, since it has been held that making an old device portable or movable without producing any new and unexpected result involves only routine skill in the art. *In re Lindberg*, 93 USPQ 23 (CCPA 1952).
- 8. With regards to claims 15 and 20, it should be emphasized that "apparatus claims must be structurally distinguishable from the prior art." MPEP 2114. *In re Danly*, 263 F. 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959) it was held that apparatus claims must be distinguished from prior art in terms of structure rather than function. In <u>Hewlett-Packard Co. v Bausch & Lomb Inc.</u>, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990), the court held that: "Apparatus claims cover what a device is, not what it does" (emphases in original). To emphasize the point further, the court added: "An invention need not operate differently than the prior art to be patentable, but need only be different" (emphases in original).
- 9. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,002,416 to Axford in view of U.S. Patent No. 4,371,788 to Smith, Jr. (prior art document submitted by applicant) as applied to claims 1, 6-9, and 13 above, further in view of U.S. Patent No. 5,975,865 A to Manabe.

Axford in view of Smith, Jr. disclose the construction of motor powered by wave action as disclosed above.

However, it fails to disclose a pump having an intake for intake seawater that is buoyant or floats on the surface of the sea.

Manabe teach the construction of a pump activated by wave energy comprising a pump having an intake (23) for intake seawater that is buoyant on the surface of the sea for the purpose of vertically supporting hollow piston tube 3.

It would have been obvious to one skilled in the art at the time the invention was made to use the buoyant seawater intake disclosed by Manabe on the motor powered by wave action disclosed by Axford in view of Smith, Jr. for the purpose of vertically supporting a hollow piston tube.

#### Conclusion

- 10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.
- 11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Pedro J. Cuevas whose telephone number is (571) 272-2021. The

examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pedro J. Cuevas

May 31, 2005

DARREN SCHUBERG SUPERVISORY PATENT EXAMI

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